The role of Inflation rate on Economic Growth and Unemployment in Nigeria

[1]Ahmadu, Ezekiel & [2]Bognet, Alfred Cyprain

[1]Department of Economics, Kaduna State University, Kaduna Nigeria
[2]Kaduna State Planning and Budget Commission 16 Muhammadu Buhari Way Kaduna

Email: alfredbognet7@gmail.com, ezekielahmadu@gmail.com

Abstract

Over the years, several studies have been carried out to establish the relationship between economic growth and unemployment but limited attention was given to the role of inflation on the relationship between economic growth and unemployment. Therefore, this study investigates the role of inflation on economic and unemployment in Nigeria over the period 1981 to 2018 through the application of Auto-regression Distributed Lag (ARDL) model. The ARDL Bounds test to co-integration revealed that unemployment, economic growth, inflation rate and interaction term do not have long run relationship. Furthermore, the result of the short run ARDL estimate revealed that economic growth has significant positive relationship with unemployment when economic growth interacts with inflation rate over the period under study and the relationship is significant only at maximum and mean level of inflation rate. Based on the result, the study recommends that government should formulate policies to control the level of inflation rate to a minimal level.

Keywords: Economic Growth, Inflation, Interaction term and Unemployment.

Introduction

The relationship between economic growth and unemployment is regarded as a matter of concern among economists, policy makers and economic managers. This is because economic growth and unemployment are the vital indicators that show a broad picture of whether an economy is developed or not (Sadiku, Ibraimi & Sadiku, 2014). This relationship was initially investigated by Okun in 1962 which is known as Okun's law. Okun (1962) discovered a negative relationship between economic growth and unemployment.

Over the years, both underdeveloped and developed nations have experience unemployment problems, but the developed nations have been controlling their unemployment rate significantly (Jibir, Bappayaya & Babayo 2015). In 2016, over 200 million people were estimated to be unemployed in the world (World Bank Development Indicators, 2016). The highest unemployment rate in the world in 2016 was recorded in an African country particularly Djibouti which amounted to 54 per cent, and the lowest was recorded in the Middle East particularly in Qatar 0.2 percent while Nigeria recorded 33.1 percent (National Bureau of Statistic (NBS) 2016).

Globally, it is estimated that Gross Domestic Product (GDP) in 2016 amounted to 75 trillion U.S dollars, with the United State having the highest which is about 18,624,575 million U.S dollars and the lowest GDP was recorded in Tuvalu which is about 34 million U.S dollars while Nigeria recorded about 404.7 billion U.S dollars (World Bank, Development Indicators, 2016).

In Nigeria, economic data have shown that both output and unemployment rate are decreasing at some point and increasing at another point (NBS, 2016). A closer look at Nigerian's GDP data would suggest that GDP is actually increasing but the number of people that are out of job is also increasing which is contrary to economic theory (Okun's law). The Okun's law suggests that economic growth should give a kind of relief by way of reducing the level of unemployment. Hence, this study investigates the relationship between economic growth and unemployment when there is an interaction between economic growth and inflation rate over the period under study

Literature Review

The Nigerian National Bureau of Statistics defined unemployment as the proportion of those in the labour force who are actively looking for work but could not find work for less than forty hours in a week (National Bureau of Statistic, 2016). The classical economist considered unemployment as the excess supply of labour over the demand for labour which is caused by adjustment in real wage. According to the Keynesian, unemployment is due to lack of effective demand for goods and services which people could have been employed to produce. For economic growth, Aigbokhan (1995), views it as a situation where by the average value of goods produced per individual increase over a long time period which is normally measured on annual basis. In addition, Jhingan (2001), views economic growth to be an improvement in average income over an extended time period.

However, several studies have been carried out to investigate the relationship between economic growth and unemployment both in Nigeria and other countries. Soylu, Cakmak and Okur (2017) focused their study in Eastern European Countries to investigate the relationship between economic growth and unemployment using a time frame of 1992-2014. Test for stationarity was carried out and the outcome of the test showed that all the variables are I(1). The study used Panel Johansen Co-integration test and Pooled OLS Panel Ordinary Least Square. The result revealed that a 1% rise in GDP will lead to 0.08% increase in unemployment rate for Eastern European Countries.

Also Suleiman, Kassim and Hemed (2017) in their study in Tanzania tried to look at the impact of unemployment on economic growth using a time frame of 1991-2015. The study applied Ordinary Least Square (OLS) to estimate the parameters and the result revealed that unemployment rate, labour force and stock capital formation all have a direct relationship with RGDP. The major problem with their study is that the time period used is too small to make any meaningful analysis.

Segun, Ajala, Loretta and David (2019) in their study in Nigeria investigated the nexus between unemployment and economic growth using a time period of 1986 to 2018 through the application of Auto Regressive Distributed Lag (ARDL) Model. The result revealed that the variables are co-integrated. It was also found that unemployment has an inverse relationship with economic growth both in the short run and in the long run

Seth, John and Dalhatu (2018) in their study in Nigeria examined the relationship between unemployment and economic growth in Nigeria using a time frame of 1986 to 2015. The study applies ARDL model for the estimation. The result revealed that in the shot-run, unemployment significantly and positively affects economic growth in Nigeria. Finding also showed that there is no long- run relationship between unemployment rate and Economic growth in Nigeria

Furthermore, Chinedu (2017) examined the determinants of the rate of unemployment in Nigeria using a time frame of 1980 to 2016. The variables considered had unemployment rate as a regress and while Real Gross Domestic Product, Government Expenditure, Inflation rate and Population were the regressors. The study applied Ordinary Least Square (OLS) technique to estimate the model. The OLS result revealed that Government expenditure and population growth are positively related to unemployment rate while inflation rate is negatively related to unemployment rate.

Darma and Onimisi (2017) in their study critically assessed the relationship between unemployment, economic growth and inflation using a time frame of 1980-2014. The variables considered had economic growth as a regress while unemployment rate and inflation were the regressors. The study applied unit root test and the result revealed that the variables are I(0) and I(1). They resolved to use ARDL model. Findings revealed that the variables do not have long run association. In the short run unemployment and inflation have significant negative relationship with unemployment.

Imoisi, Amba and Okon (2017) investigated the impact of unemployment on economic growth in Nigeria over the period of 1980-2016 using OLS technique. Findings revealed that population and unemployment rate have a negative relationship with Real Gross Domestic product while labour force and minimum wage have a positive relationship with Real Gross Domestic product.

Akeju and Olanipekun (2014) accessed the relationship between economic growth and unemployment over the period of 1980-2012. The study applied Johansen co-integration test and Error Correction Model (ECM). The co-integration test result revealed that there is a long run relationship between unemployment rate and output growth in Nigeria. While the ECM result showed that unemployment rate has a positive relationship with economic growth both in the short run and long run.

However, the above previous studies have attempted to investigate the relationship between economic-growth, unemployment and inflation rate without looking at the role of inflation rate on the relationship between economic growth and unemployment. Therefore, this study

would contribute to knowledge because it would investigate the role of inflation rate on the relationship between economic growth and unemployment in Nigeria.

Materials and Methods

This study used time series data which were obtain from the Central Bank of Nigeria (CBN) statistical bulletins 2018 and the National Bureau of Statistic (NBS) statistical report 2018

Theoretical Framework

This study used the Okun's Law Difference Model as the theoretical framework to examine the role of inflation rate on the relationship between economic growth and unemployment in Nigeria. The Okun's Law Difference Model is an empirical observation on the relationship between changes in unemployment rate and changes in Real Gross Domestic Product. The Okun's law difference model shows that one percent increases in real Gross Domestic Product is associated with 0.3 percentage points decrease in the unemployment rate. The Okun's Law Difference Model is shown in equation 3.1 as follows:

$U_t=\beta_0 + \beta_1 RGDP_t + \varepsilon_t$. . . . . (1)

Model Specification

This study used Okun's Law standard difference model adopted from the work of Akeju and Olanipekun (2014). The model is shown in equation 3.2 as follows:

$UNER_t= \gamma_0 + \gamma_1 RGDR_t + \varepsilon_t$. . . . . (2)

Where: UNER=Aggregate Unemployment Rate, RGDP= Real Gross Domestic Product, ε_t = is the Error term, t= time period. On apriori expectation, $\gamma_{o>} 0$, $\gamma_1 < 0$.

The above model is adopted to include inflation rate which is traditionally known to impact on unemployment as shown in equation 3.3 as follows:

$UNER_t= \gamma_0 + \gamma_1 RGDR_t + \gamma_2 INFRt + \varepsilon_t$. . . . . (3)

To achieve the objective of this study, interaction term was added to the model in equation 3.3 which gave rise to a new model for the study as shown in equation 3.4 as follows:

$UNER_t= \emptyset_0 + \emptyset_1 RGDR_t + \emptyset_2 INFR_t + \emptyset_3 (RGDR_t x INFR_t) + \varepsilon_t$. . (4)

Where: UNER=Aggregate Unemployment Rate (a proxy for unemployment), RGDP= Real Gross Domestic Product (a proxy for economic growth), INFR= Inflation rate, ($RGDP_t x INFR_t$)=The interaction term which captured the impact of economic growth on unemployment conditional on the role of inflation rate, ε_t = is the Error term, t= time period. On apriori expectation, $\emptyset_{o>} 0$, $\emptyset_1$, $\emptyset_2$ and $\emptyset_3 < 0$.

Furthermore, Brambor, Clark and Golder (2005) stated that researchers should avoid interpreting the interaction terms based on a single constant effect but the interpretation should be based on multiple marginal effects depending on the variables upon which the interaction is based. And the significant of the marginal effect can only be concluded by using new standard errors.

Thus, the marginal effect of unemployment and economic growth relationship when economic growth (RGDP) interacts with inflation rate is shown in equation 5 as follows:

$$\frac{\partial \log(UNER)}{\partial \log(RGDP)} = \emptyset_1 + \emptyset_3 INFR. \quad . \quad . \quad . \quad . \quad . \quad . (5)$$

The new standard error for the marginal effect of equation (5) above is shown in equation 6 as follows:

$$\frac{\partial \log(UNER)}{\partial \log(\text{RGDP})} = \text{Standard Error of } \sqrt{Var(\emptyset_1) + INFR^2 Var(\emptyset_3) + 2.INFR.Cova(\emptyset_1, \emptyset_3)} \quad . \quad .(6)$$

Technique of Data Analysis

Unit root test was conducted using Augmented Dickey-Fuller method to check the stationarity states of the variables and the result revealed that the variables are I(1) and I(0). After that the study resolved to use ARDL Model as formulated by Pesaran and Shin (2001) because it is the appropriate model that can accommodate variables that are integrated of order I(1) one and zero I(0)

Measurement of Variables.

i. **Aggregate Unemployment Rate:** Unemployment rate (proxy for unemployment) refers to percentage of the people that are not working to total labour force. This study used the formula adopted by the National Bureau of Statistic (NBS) where people working below forty hours in a week are regarded as unemployed.

ii. **Real Gross Domestic Product (RGDP):** Real Gross Domestic Product (proxy for economy growth) is the Gross Domestic Product that has been adjusted for the effect of inflation and it is measured at 2010 constant price in billions of naira.

iii. **Inflation**: Inflation is measured by comparing the price in two different periods, of a fixed basket of goods and services.

Results of the Findings

Descriptive statistic of the variables

The descriptive statistics of the variables in Table 1 below were presented in terms of their mean, median, minimum, maximum, standard deviation and Jarque-Bera. It can be seen clearly from the below table that Real Gross Domestic Product (RGDP) and interaction term (RGDPxINFR) have residuals that are normally distribute because their Jarque-Bera probability values are all more than 5 percent. While the residuals of Unemployment (UNER) and Inflation rate are not normally distributed because their Jarque-Bera probability values are all less than 5 percent. The maximum values of UNER, RGDP, INFR and RGDPxINFR for the period under study are:42.9, 69810.02,72.84 and 1482527 respectively. While minimum values of UNER, RGDP, INFR and RGDPxINFR for the period under study are:1.9, 13779.26, 5.38 and 87161.29 respectively

Table 1. Descriptive statistic of the variables

	UNER	RGDP	INFR	RGDPxINFR
Mean	13.04211	33725.22	19.32421	539475.2
Median	12.1	23068.85	12.55	529066.6
Maximum	42.9	69810.02	72.84	1482527
Minimum	1.9	13779.26	5.38	87161.29
Std. Dev.	10.78787	19578.1	17.25567	353243.4
Skewness	1.059667	0.734406	1.742366	0.698476
Kurtosis	3.321747	1.996529	4.837589	2.765597
Jarque-Bera	7.275577	5.010238	24.57347	3.176832
Probability	0.02631	0.081666	0.000005	0.204249
Sum	495.6	1281558	734.32	20500058
Sum Sq. Dev.	4305.993	1.42E+10	11017.05	4.62E+12
Observations	38	38	38	38

Source: Author's Computation, 2020 using Eview 9

Unit Root Test

The unit root test presented in Table 2 revealed that the variables are of mixed order of integration. UNER, RGDP, RGDPxINFR are not stationary at level but they became stationary after taking the first difference at 5% significant level. While inflation rate was found to be stationary at level using 5% significant level

Table 2. Summary of Unit Roots Test (Augmented Dickey-Fuller Test) At Trend and Intercept

Variables	Test statistics at level	5% critical value at level	P-value at level	Test statistics at first difference	5% critical value at first difference	p-value at first difference	Order of integration
Log(Uner)	-2.1348	-3.536601	0.5102	-6.80618	-3.540328	0	I(1)
log(RGD)	-1.504	-3.544284	0.8091	-3.54033	-3.319512	0.0493	I(1)
Infr	-3.9623	-3.540328	0.0193	-	-	-	I(0)
Log (rgdp*infr)	-3.4617	-3.536601	0.0587	-6.41492	-3.544284	0	I(1)

Source: Author's Computation, 2020 using Eview 9

Autoregressive Distributed Lags (ARDL) Short-Run Estimate

Considering that the variables used for this paper are of mixed order of integration as shown by the unit root test in Table 2, the study employed ARDL Model as formulated by Pesaran and Shin (2001). This method was employed because it is applicable irrespective of whether the repressors in the model are purely I(0) or I(1) or mixed. To estimate the variables in the model, the study selected ARDL (1, 1, 1, 1,1) and the result is presented in Table 3 below.

Table 3: ARDL Short-Run Estimate

Dependent Variable: LOG(UNER) Selected Model: ARDL(1, 1, 1, 1,1)					
Variable	Coefficient	Std.Error	t-Statistic	Prob.*	Remark
LOG(UNER(-1))	0.645227	0.137257	4.700866	0.0001	Significant
LOG(RGDP)	1.171249	1.310425	0.893793	0.3788	Insignificant
LOG(RGDP(-1))	1.285315	1.276999	1.006512	0.3225	Insignificant
INFR	-0.014978	0.005908	-2.535159	0.0436	Significant
INFR(-1)	-0.006758	0.009894	-0.683045	0.5000	Insignificant
LOG(RGDPxINFR)	0.200346	0.069636	2.877704	0.0373	Significant
LOG(RGDPxINFR(-1))	0.093920	0.040471	2.320634	0.0471	Significant
C	-3.676207	1.727544	-2.127996	0.0420	
R-squared	0.914188	F-statistic		44.13530	
Adjusted R-squared	0.893474	Prob(F-statistic)		0.000000	

Source: Author's Computation, 2020 using Eview 9

The estimated ARDL model presented in Table 3 is well fitted because it has an Adjusted R-square value of 89 percent which is above 50% acceptable level. It showed that about 89% of unemployment is being explained by economic growth, inflation rate and the interaction term over the period under study. And the remaining 11% is being captured by other variables outside the model. In addition, the explanatory variables are also jointly significant to explain unemployment as revealed by the small probability value of the F statistic (0.00000) which is less than 5%

Finding revealed that the interaction term (RGDPxINFR) has significant positive relationship with unemployment. In another word, economic growth has significant positive relationship with unemployment when economic growth interacts with inflation rate over the period under study. Precisely, a unit change in interaction term (RGDPxINFR) will bring about 0.006758 percent increases in unemployment and it is in line with the apriori expectation of the study

Finding also revealed that economic growth (proxy by RGDP) has insignificant positive relationship with unemployment at 5 percent significant level. Specifically, a unit change

in economic growth will bring about 1.171249 percent increases in unemployment which is contrary to Okun's law and also not in line with the work of Darma and Onimisi (2017), Imoisi, Amba and Okon (2017) and among others. The plausible reason that can be deduced from this positive relationship is that there is likelihood the growth in Nigeria's Real Gross Domestic Product is not inclusive. Furthermore, Inflation rate (INFR) showed expected sign. Finding revealed that inflation rate has significant negative relationship with unemployment at 5 percent significant level. To be precise one percent change in inflation rate would result in about 0.014978 percent decreases in unemployment rate which is similar to the work of Chinedu (2017) among others

Bounds Test to Co-integration

The F- statistic value of 2.717372from the ARDL bound testing presented in Table 4 below is smaller than the lower bound critical value of 3.23at 5 percent level. Therefore, on this basis the null hypothesis of no long run relationship is accepted and conclude that unemployment, economic growth, inflation rate and interaction term do not have long run relationship over the period under study and this similar to the work of Darma and Onimisi (2017).

Table 4. ARDL Bounds Test

Computed F- statistic	K	5% critical Bound Test value	
		Lower Bound	Upper Bound
2.717372	3	3.23	4.35

Source: Author's Computation, 2020 using Eview 9

Diagnostic Checking

CUSUM Stability Test

The short-run model is found to be stable as revealed by CUSUM test in figure 1. The CUSUM plot falls within the 5 percent critical bound, which implies that the parameters in the model are stable

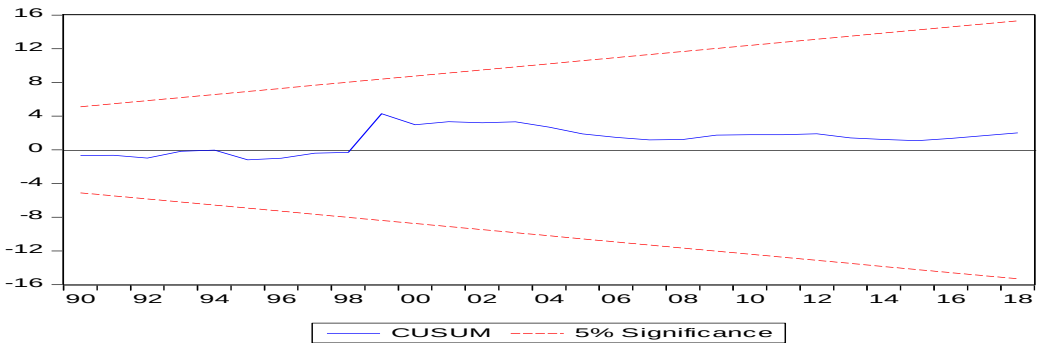

Figure 1: CUSUM Test

Test for Autocorrelation and Heteroscedasticity

The short-model is free from autocorrelation and heteroscedasticity as suggested by the Breusch-Godfrey Serial Correlation LM Test with an observed R square p-value of 0.1754and Breusch-Pagan-Godfrey heteroscedasticity test with an observed R square p-value of 0.2249 which are all more than 5 percent as shown in Table 5 as follows:

Table 5. Test for Autocorrelation and Heteroscedasticity

Breusch-Godfrey Serial Correlation LM Test			
F-statistic	1.462253	Prob. F(1,28)	0.2367
Obs*R-squared	1.836362	Prob. Chi-Square(1)	0.1754
Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.411841	Prob. F(7,29)	0.2385
Obs*R-squared	9.404311	Prob. Chi-Square(7)	0.2249

Source: Author's Computation, 2020 using Eview 9

Marginal effect of economic growth on unemployment for maximum, mean and minimum level of inflation rate

The marginal effect of economic growth (proxy by RGDP) on unemployment when economic growth interacts with inflation rate is presented in Table 6 and it was calculated using the short run coefficients of the estimated ARDL model presented in Table 3. From the result, the marginal effect of economic growth on unemployment when economic growth interact with inflation rate is positive and it is significant only at maximum and mean level of inflation rate using 5 percent significant level. This means that at maximum and mean level of inflation rate, economic growth has significant positive relationship with unemployment. While at minimum level of inflation rate, economic growth has insignificant positive relationship with unemployment. Specifically, at maximum, mean and minimum level of inflation rate, economic growth would lead to increase in unemployment by 58.84%, 17.89% and 2.61% respectively.

Table 6. Marginal effect of economic growth on unemployment for maximum, mean and minimum level of inflation rate

Maximum level of inflation rate (42.9)	Mean level of inflation rate (13.04211)	Minimum level of inflation rate(1.9**)**
$\frac{\partial \log(UNER)}{\partial \log RGDP} = \emptyset_1 + \emptyset_3 INFR$ =1.171249+0.200346 (42.9)=58.84 Marginal Effect=58.84 New Std.Error(9.803583) t. stat [6.00]	$\frac{\partial \log(UNER)}{\partial \log(RGDP)} = \emptyset_1 + \emptyset_3 INFR$ =1.171249+0.200346 (13.04211)=17.89 Marginal Effect=17.89 New Std.Error(3.181876) t. stat [5.62	$\frac{\partial \log \text{UNER}}{\partial \log(RGDP)} = \emptyset_1 + \emptyset_3 INF$ =1.171249+0.200346 (1.9)=2.61 Marginal Effect=2.61 New Std.Error(1.356081) t. stat [1.92]

Note:t-sta>1.96 (significant at 5%), t-sta<1.96 (insignificant at 5%). The calculation of the standard error was carried out as suggested by Brambor, etal (2005). (See Table 7)

Table 7. New standard error of the marginal effect

Standard Error (S.E) of marginal effect

S.E of $\frac{\partial \log(RGDP)}{\partial \log(\text{NOXP})} = \sqrt{Var(\emptyset_1) + INFR^2 Var\emptyset_3 + 2.INFR.Cova(\emptyset_1, \emptyset_3)}$

Standard Error (S.E) of marginal effect at maximum level of inflation rate

S.E of $\frac{\partial \log(RGDP)}{\partial \log(\text{NOXP})} = \sqrt{1.71721397 + 42.9^2 * 0.052103141 + 2 * 42.9 * -0.017460649}$ =**9.803583**

Standard Error (S.E) of marginal effect at mean level of inflation rate

S.E of $\frac{\partial \log(RGDP)}{\partial \log(\text{NOXP})} = \sqrt{1.71721397 + 13.04211^2 * 0.052103141 + 2 * 13.04211 * -0.017460649}$

=**3.181876**

Standard Error (S.E) of marginal effect at minimum level of inflation rate

S.E of $\frac{\partial \log(RGDP)}{\partial \log(\text{NOXP})} = \sqrt{1.71721397 + 1.9^2 * 0.052103141 + 2 * 1.9 * -0.017460649}$

=**1.356081**

Where:S.E= Standard error, Var=Variance,Cova=Covariance, INFR=Inflation rate, $\emptyset_1$and $\emptyset_2$=Coefficients

Conclusion

This study concludes that economic growth has a positive relationship with unemployment when economic growth interacts with inflation rate and the relationship is significant only

at maximum and mean level of inflation rate over the period under study. That is to say when inflation becomes too high, the economy would suffer and it would not have the capacity to provide employment to those who are active and willing to work**.**

Recommendations

Based on the findings, the study makes the following recommendations;

i. That government should formulate policies to control the level of inflation rate to a minimal level because high inflation may reduce the level of business investment and possibly affect the growth of GDP
ii. In addition, vocational subjects need to be included in the curriculum of our education at all levels in order to prepare future graduates to be self-employed and also to be employer of labour rather than waiting for government to provide jobs. This will go a long way to reduce the level of unemployment in the county and eventually lead to improvement in GDP

References

Aigbokhan, B.E. (1995). *Macroeconomic: Theory Policy and Evidence*. Benin City: Idenijies Publishers

Akeju, K. F and Olanipekun, D. B. (2014). Unemployment and economic growth in Nigeria, *Journal of economics and sustainable development.* 5(4).

Brambor, T., Clark, R and Golder, M. (2005). Understanding interaction models: improving empirical analyses. *Political Analysis,* 14(1); 63-82.

Chinedu, O. I. (2017). Determinants of the rate of unemployment in Nigeria. *International Journal of Information Research and Review* 4; 3593-3595.

Darma, N. A. and Onimisi, M. A**.** (2017). The analysis of the relationship between inflation, unemployment and economic growth in Nigeria. *Archives of business research*, 5(5); 106-114

Imoisi, A., Amba, E. and Okon, I. (2017). Unemployment rate and economic growth in Nigeria: *An empirical analysis, international journal of development and sustainability.* 6: 369-384

Jhingan, M. L. (2001). *Advanced Economic Theory* (11th Ed). Delhi: Vrinda Jibir, A., Bappayaya, B. and Babayo, H. (2015). Re-examination of the impact of unemployment on economic growth of Nigeria: An econometric approach. *Journal of economics and sustainable development.* 6; 8.

National Bureau of Statistics (NBS) (2016). *Unemployment/Under-employment report*, Q4, *Vol. 2.*

Okun, A. M., (1962). Potential gnp and its measurement and significance, *American Statistical Association, proceedings of the business and economics statistics* section, 98-104

Pesaran, M. H. & Y. Shin. (2001). *Autoregressive distributed lag modeling approach to cointegration analysis, in econometrics and economic theory in the 20th century: The Ragnar Frisch Centennial Symposium (Vol. 11).* Cambridge: Cambridge University Press.

Sadiku, M., Ibraimi, A. &Sadiku, L. (2014). Econometric estimation of the relationship between unemployment and economic growth of FYR of Macedonia., *Procedia economics and finance* 19; 69-18.

Segun, B., I., Ajala R. B., Loretta, N., N. and David, O. O. (2019). The Nexus between Unemployment and Economic Growth in Nigeria. *International journal of innovative research & development, vol 8, issue 12.*

Seth, K., John, A.M. and Dalhatu, Y.A. (2018). The Impact of unemployment on economic Growth in Nigeria: An Application of Autoregressive Distributed Lag (ARDL) Bound Testing, *Journal of Business Management and Marketing,* 1(2); 37-46

Soylu, B. O, Çakmak, I. and Okur, F. (2017). Economic growth and unemployment issue: Panel data analysis in Eastern European Countries. *Journal of International Studies,* 11(1); 93-107.

Suleiman, H. S., Kassim, T., S and Hemed, I. (2017). Unemployment and economic growth in Tanzania, *Journal of economics, management and trade* 20(2): 1-8 World Bank (WB) (2016). *World Development Indicators*